Remarks

Claims 1-21 remain in the application.

The Abstract of the Disclosure has been amended to comply with MPEP 608.01(b).

Claims 1 through 11, 15, 16, 19 and 21 have been amended to eliminate multiple dependencies, and the phrase "the steps of." As such, claims 1 through 11, 15, 16, 19 and 21 have been clarified by amendment for purposes of form. It is respectfully submitted that the amendments to claims 1 through 11, 15, 16, 19 and 21 are neither narrowing nor made for substantial reasons related to patentablity as defined by the Court of Appeals for the Federal Circuit (CAFC) in Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 95-1066 (Fed. Cir. 2000). Therefore, the amendments to claims 1 through 11, 15, 16, 19 and 21 do not create prosecution history estoppel and, as such, the doctrine of equivalents is available for all of the elements of claims 1 through 11, 15, 16, 19 and 21. Accordingly, it is respectfully submitted that claims 1 through 40, as amended, are allowable.

Consideration and allowance of application is respectfully requested.

Attached hereto is a marked up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version With Markings to Show Changes Made."

Respectfully submitted,

Date

Paul D. Greeley
Attorney for Applicants
Registration No. 31,019
Ohlandt, Greeley, Ruggiero & Perle, L.L.P.
One Landmark Square, 10th Floor
Stamford, CT 06901-2682
(203) 327-4500

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In The Abstract

Please amend the abstract as follows:

ABSTRACT OF THE DISCLOSURE

[The invention relates to an] An apparatus and a method of determination of at least one optical parameter of an optical signal[, comprising the steps of:] includes providing a beam of the optical signal having a diameter, manipulating the beam, the manipulation having polarization properties, the properties being dependent of the position in the beam laterally with respect to a direction of propagation of the beam during manipulation, detecting in intensities at least three parts of the beam in their dependence of the position in the beam laterally with respect to a direction of propagation of the beam during detection.

[[Fig. 1 for publication]]

In The Claims

Please amend the claims as follows:

1. (Amended) A method of determination of at least one optical parameter of an optical signal, comprising [the steps of:

-] manipulating a beam of the optical signal, the manipulation having polarization properties, the properties being dependent of the position in the beam laterally with respect to a direction of propagation of the beam during manipulation, wherein the beam is manipulated by:

[-]retarding the beam, the retardation being dependent of the position in the beam laterally with respect to a direction of propagation of the beam during retardation, and

[-]polarizing the beam using a known polarization;

[-] detecting intensities in at least three parts of the beam in their dependency of the position in the beam laterally with respect to a direction of propagation of the beam during detection, and

[-] evaluating the optical parameter on the basis of the detected intensities.

2. (Amended) The method of claim 1, wherein the manipulation comprises the manipulation of the power transmission of at least a part of the beam, the manipulation of the power transmission being dependent of the position in the beam laterally with respect to a direction of propagation of the beam during manipulation of the power transmission, and being dependent of the polarization of said part of the beam [(8, 104, 106, 108, 202, 206, 208, 210)].

3. (Amended) The method of claim 1, further comprising [the steps of]:

[-] providing the beam with a known wavelength, and

[-] evaluating as an optical parameter the state of polarization of the signal.

4. (Amended) The method of claim 1, further comprising [the steps of]:

[-] providing the beam with a known state of polarization, and

[-] evaluating as an optical parameter the wavelength of the signal.

5. (Amended) The method of claim 1, further comprising [the steps of]:

[-] splitting the beam in a first and at least a second beam,

[-] providing the first beam with a known first polarization before manipulating,

[-] providing the second beam with a known second polarization before manipulating,

[-] detecting the intensity of the first beam in its dependence on the position in the first beam laterally with respect to a direction of propagation of the first beam during detection,

[-] detecting the intensity of the second beam in its dependence on the position in the second beam laterally with respect to a direction of propagation of the second beam during detection, and

[-] evaluating as an optical parameter the wavelength of the beam.

6. (Amended) The method of claim 1, further comprising the steps of evaluating the optical parameter by:

[-] describing the effect of the manipulation step with the help of a matrix,

[-] inverting the matrix, and

[-] multiplying the detected intensities with the inverted matrix to get the Stokes parameters for the optical signal.

7. (Amended) The method of claim 1, wherein the dependence of the properties of the manipulation from the position in the beam [being] is sufficient to make the matrix invertible.

8. (Amended) The method of claim 1, wherein the detection [being] is a detection of four different parts of the beam.

9. (Amended) The method of claim 1, further comprising [the steps of]:

[-] splitting the beam in a first, a second and a third beam,

[-] providing the first beam with a known first polarization before manipulation,

[-] providing the second beam with a known second polarization before manipulation,

[-] detecting the intensity of the first beam in its dependence on the position in the first beam laterally with respect to a direction of propagation of the first beam during detection,

[-] detecting the intensity of the second beam in its dependence on the position in the beam laterally with respect to a direction of propagation of the second

beam during detection,

[-] detecting the intensity of the third beam in its dependence on the position in the beam laterally with respect to a direction of propagation of the third beam during detection,

[-] evaluating as an optical parameter the wavelength of the beam on the basis of the detected intensities of the first and the second beam, and

[-] evaluating as an optical parameter the state of polarization of the beam on the basis of the detected intensity of the third beam.

10. (Amended) A software program [or product, preferably] , stored on a data carrier, for executing [the method of claim 1] a method for determining at least one optical parameter of an optical signal, when run on a data processing system [such as a computer] said method comprising:

manipulating a beam of the optical signal, the manipulation having polarization properties, the properties being dependent of the position in the beam laterally with respect to a direction of propagation of the beam during manipulation, wherein the beam is manipulated by:

retarding the beam, the retardation being dependent of the position in the beam laterally with respect to a direction of propagation of the beam during retardation, and

polarizing the beam using a known polarization;

detecting intensities in at least three parts of the beam in their dependency of the position in the beam laterally with respect to a direction of propagation of the beam during detection, and

evaluating the optical parameter on the basis of the detected intensities.

11. (Amended) An apparatus for determination of at least one optical parameter of an optical signal, comprising:

[-] an element in a path of a beam of the optical signal for manipulating the beam, the manipulation having polarization properties, the properties being dependent on the position in the beam laterally with respect to a direction of propagation of the beam during the manipulation,

[-] a detector element in the path for detecting the intensities in at least three parts of the beam in their dependency on the position in the beam laterally with respect to a direction of propagation of the beam during detection, and

[-] an evaluating unit connected to the detector element for evaluating the optical parameter on the basis of the detected intensities,

wherein the element further comprises:

[-] at least one retardation element in the path, the retardation of the retardation element being a function of the position in the beam laterally with respect to a direction of propagation of the beam during retardation, and

[-] at least one polarization element in the path with a known polarization effect on the signal.

15. (Amended) The apparatus of claim 11, further comprising:

[-] a first beam splitter in the path between the light source and the element for providing a first beam traveling a first path and a second beam traveling a second path,

[-] a first polarization element in the first path for providing the first beam with a known polarization, and

[-] a second polarization element in the second path for providing the second beam with a known second polarization,

wherein [-] the detector element [being] is in the path of the first and of the second polarized beam for detecting the intensity of the beam in its dependency of the position in the beams laterally with respect to a direction of

propagation of the beams during detection.

16. (Amended) The apparatus of claim 11, further comprising:

[-] a first and a second beam splitter in the path between the light source and the element for splitting the beam in a first beam traveling a first path, a second beam traveling a second path and a third beam traveling a third path,

[-] a first polarization element in the first path for providing the first beam with a known first polarization, and

[-] a second polarization element in the second path for providing the second beam with a known second polarization,

wherein [-] the detector element [being] is in the paths of the first, the second and the third beam for detecting the intensities of the beams in their dependency of the position in the respective beam laterally with respect to a direction of propagation of the respective beam during detection,

and wherein [-] the evaluating unit [being able for evaluating] evaluates, as an optical parameter, the wavelength of the beam on the basis of the detected intensities of the first and the second beam and [being able to evaluate] evaluates the state of polarization of the beam on the basis of the detected intensities of the third beam.

19. (Amended) The element of [claims] claim 17, wherein the sub-elements comprises retardation sub-elements for retardation of the optical signal.

21. (Amended) The apparatus of 11, wherein the element comprises [an element according to claim 17] at least two sub-elements, each having at least one body axis, each of these sub-elements having a variation in a manipulation property along its axis and these axes have some angle with respect to each other.